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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,147	12/12/2003	Benjamin Atkin	51289/JEJ/D359	1566

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CHRISTIE, PARKER & HALE, LLP  
PO BOX 7068  
PASADENA, CA 91109-7068

EXAMINER

O'CONNOR, CARY E

ART UNIT PAPER NUMBER

3732

DATE MAILED: 11/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/735,147	<b>Applicant(s)</b> ATKIN ET AL	
	<b>Examiner</b> Cary E. O'Connor	<b>Art Unit</b> 3732	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 September 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 7, 8, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burt (3,518,766) in view of Winston (5,853,290). Burt shows an ultrasonic dental insert for an ultrasonic dental tool comprising a transducer 16 for generating ultrasonic vibrations, a connecting body 34 having a proximal end and a distal end, the proximal end attached to the transducer, the distal end having an engagement portion 40 formed thereon, a handgrip 43 enveloping at least a portion of the connecting body, at least one O-ring 49 for shock absorption (column 4, lines 39-47) mounted between the connecting body and the hand grip and around the engagement portion, and a removable tip 31 engaging the engagement portion. Burt does not teach that the tip is made of plastic. Winston shows an ultrasonic tooth cleaner having a plastic tip 16 (column 4, lines 57+). Making the tips of plastic enables them to be cheaply mass produced and thereby making them disposable. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the tips of Burt out of plastic, in view of Winston, so that the tips may be cheaply

interchangeable and disposable. Burt only teaches a single O-ring. It would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the insert of Burt having a plurality of O-rings, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. As to claim 2, note that the tip may be made of metal (column 3, last line to column 4, line 2). As to claim 3, note that the tip comprises an attachment portion 42 for engaging the engagement portion. As to claim 4, the tip is shown to have a tapered portion 32, 33 in Figure 1. As to claim 7, note the groove 56 formed in the tapered portion of the tip. As to claim 8, Figures 2 and 2a show the tip as having a substantially circular cross section. As to claim 11, Burt discloses that the engagement portion is a cylindrical wall defining a cavity and the attachment portion is pressure fit into the cavity (column 4, lines 21-25). As to claim 12, the tapered portion is shown, in Figure 1, including a first portion 32 generally aligned with the connecting body and a second portion 33 which is curved at an angle from the first portion.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Burt (3,518,766) in view of Winston (5,853,290) as applied to claim 4 above, and further in view of Parisi (4,169,984). The conduit for carrying fluid of Burt is not formed by a conical wall that defines the conduit. Parisi shows an ultrasonic dental instrument comprising a tip 25 with a conduit defined by a conical wall. It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the tip of

Sharp as modified by Winston, as taught by Parisi, in order to better control the direction of the fluid onto the tooth surface.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Burt (3,518,766) in view of Winston (5,853,290) as applied to claim 4 above, and further in view of Sharp et al (6,086,369). The tip of Burt does not include an external tube attached thereto for carrying the fluid. Sharp shows, in Figure 4, a dental insert having a removable tip 16 and an external tube 42 attached thereto for carrying the fluid. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the insert of Burt with an external tube attached to the tip for carrying the fluid, in view of Sharp, so that a stream of jet fluid could be delivered to the work area.

Claims 9, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burt (3,518,766) in view of Winston (5,853,290) as applied to claim 3 above, and further in view of Finn (6,086,369). The attachment portion of Burt threaded to engage a threaded portion of the engagement portion. Finn shows a vibratory dental handpiece having a tip 52 which has a threaded attachment portion to engage the engagement portion which is also threaded. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the engagement and attachment portions of Burt with threads, in view of Finn, in order to provide a secure attachment between the tip and the connecting body that is less likely to come apart due to the vibrations of the instrument.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Burt (3,518,766) in view of Winston (5,853,290) as applied to claim 1 above, and further in view of Loge et al (4,589,847). The hand grip of Burt does not include bumps to facilitate grasping by the dental practitioner. Loge shows an ultrasonic dental handpiece comprising a hand grip 1 having a plurality of bumps formed on the outer surface. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the hand grip of Burt with a plurality of bumps formed on the outer surface, as taught by Loge, in order to prevent the practitioner's hand from slipping.

Claims 14-18, 20-22, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burt (3,518,766) in view of Winston (5,853,290) and Sharp et al (6,086,369). Burt shows an ultrasonic dental insert for an ultrasonic dental tool comprising a transducer 16 for generating ultrasonic vibrations, a connecting body 34 having a proximal end and a distal end, the proximal end attached to the transducer, the distal end having an engagement portion 40 formed thereon, a handgrip 43 enveloping at least a portion of the connecting body, at least one O-ring 49 for shock absorption (column 4, lines 39-47) mounted between the connecting body and the hand grip and around the engagement portion, and a removable tip 31 engaging the engagement portion. Burt does not teach that the tip is made of plastic. Winston shows an ultrasonic tooth cleaner having a plastic tip 16 (column 4, lines 57+). Making the tips of plastic enables them to be cheaply mass produced and thereby making them disposable. It would have been obvious to one of ordinary skill in the art at the time the

invention was made to make the tips of Burt out of plastic, in view of Winston, so that the tips may be cheaply interchangeable and disposable. Burt only teaches a single O-ring. It would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the insert of Burt having a plurality of O-rings, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. Burt also only discloses the use of a piezoelectric transducer to produce the ultrasonic vibrations. However, Sharp discloses that piezoelectric and magnetostrictive transducers are used interchangeably in ultrasonic dental devices. It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the piezoelectric transducer of Burt with a magnetostrictive transducer, in view of the teachings of Sharp that these types of transducers are commonly used in ultrasonic dental instruments. As to claim 20, the tip of Burt does not include an external tube attached thereto for carrying the fluid. Sharp shows, in Figure 4, a dental insert having a removable tip 16 and an external tube 42 attached thereto for carrying the fluid. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the insert of Burt with an external tube attached to the tip for carrying the fluid, in view of Sharp, so that a stream of jet fluid could be delivered to the work area. As to claim 21, note the groove 56 formed in the tip of Burt.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Burt (3,518,766) in view of Winston (5,853,290) and Sharp et al (6,086,369) as applied to claim 18 above, and further in view of Parisi (4,169,984). The conduit for carrying fluid

of Burt is not formed by a conical wall that defines the conduit. Parisi shows an ultrasonic dental instrument comprising a tip 25 with a conduit defined by a conical wall. It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the tip of Burt as modified by Winston, as taught by Parisi, in order to better control the direction of the fluid onto the tooth surface.

Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burt (3,518,766) in view of Winston (5,853,290) and Sharp et al (6,086,369) as applied to claim 17 above, and further in view of Finn (6,086,369). The attachment portion of Burt is not threaded to engage a threaded portion of the engagement portion. Finn shows a vibratory dental handpiece having a tip 52 which has a threaded attachment portion to engage the engagement portion which is also threaded. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the engagement and attachment portions of Burt with threads, in view of Finn, in order to provide a secure attachment between the tip and the connecting body that is less likely to come apart due to the vibrations of the instrument.

### ***Response to Arguments***

Applicant's arguments filed September 6, 2005 have been fully considered but they are not persuasive. Applicant argues that Burt does not disclose that the O-ring is for shock absorption around the engagement portion of the connecting body. It has been held that it is not necessary for the applied reference to expressly disclose or describe a particular element or limitation of a rejected claim word for word as in the rejected claim so long as the reference inherently discloses that element or limitation.



*Standard Havens Products Inc. v. Gencor Industries Inc.*, 953 F.2d 1360, 21 USPQ 2d. 1321 (Fed. Cir. 1991). In this case, Burt discloses that the O-ring is made of a resilient material and therefore would inherently provide some shock absorbsion.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cary E. O'Connor whose telephone number is 571-272-4715. The examiner can normally be reached on M-Th 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached on 571-272-4720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Cary E. O'Connor  
Primary Examiner  
Art Unit 3732

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